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**COURSE: FLUTTER**

1. How to duplicate repeating items inside a Dart list?

Problem

Consider the code:

final List<Dynamic> \_nameList = [Bilal, Bilal, Bilal, Owais, Owais, Owais]

What can to be done in order to not repeat Bilal and Owais multiple times?

**Code:**

 final List<dynamic> names = [

    "Bilal",

    "Bilal",

    "Bilal",

    "Owais",

    "Owais",

    "Owais"

  ];

  final remove = names.toSet().toList();

  print(remove);

**Output:**

**[Bilal, Owais]**

1. Let’s say you are given a list saved in a variable: Consider a = [1, 4, 9, 16, 25, 36, 49, 64, 81, 100].

Write a code that takes this list and makes a new list that has only the even elements of this list in it.

**Code:**

 var b = [];

  var a = [1, 4, 9, 16, 25, 36, 49, 64, 81, 100];

  for (var i = 0; i < a.length; i++) {

    if (a[i] % 2 == 0) {

      b.add(a[i]);

      print(b);

    }

  }

}

**Output:**

**[4]**

**[4, 16]**

**[4, 16, 36]**

**[4, 16, 36, 64]**

**[4, 16, 36, 64, 100]**

1. Ask the user for a number and determine whether the number is prime or not.

**Code:**

print('Enter number to check prime or no');

   int? num = int.parse(stdin.readLineSync()!);

  print('$num');

  if(CheckPrime(num)){

           print('$num is a prime');

  }else{

    print('$num is not a prime');

  }

}

bool CheckPrime(int num){

  if(num<=1){

     return false;

  }

  for (int i = 2;i<=sqrt(num);i++){

    if(num%i == 0){

      return false;

    }

  }

  return true;

}

**Output:**

**13**

**13**

**13 is a prime**

1. Write a program to print multiplication table of 7 length 15 using loop.

**Code:**

for (int a = 1; a <= 15; a++) {

    print("7 X " + a.toString() + " = " + (7\*a).toString() );

  }

**Output:**

**7 X 1 = 7**

**7 X 2 = 14**

**7 X 3 = 21**

**7 X 4 = 28**

**7 X 5 = 35**

**7 X 6 = 42**

**7 X 7 = 49**

**7 X 8 = 56**

**7 X 9 = 63**

**7 X 10 = 70**

**7 X 11 = 77**

**7 X 12 = 84**

**7 X 13 = 91**

**7 X 14 = 98**

**7 X 15 = 105**

1. Write a program to print items of the following array using for loop: fruits = [“apple”, “banana”, “mango”, “orange”, “strawberry”].

**Code:**

var fruits = ["apple", "banana", "mango", "orange", "strawberry"];

  for (var i = 0; i < fruits.length; i++) {

    print(fruits[i]);

  }

**Output:**

**apple**

**banana**

**mango**

**orange**

**strawberry**

1. Write a program to print multiples of 5 ranging 1 to 100.

**Code:**

var arr = [];

  for (var i = 1; i <= 100; i++) {

    if (i % 5 == 0) {

      arr.add(i);

    }

  }

  print(arr);

**Code:**

**[5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100]**

1. The Temperature Converter: It’s hot out! Let’s make a converter based on the steps here.
   1. Store a Celsius temperature into a variable.
   2. Convert it to Fahrenheit & output “NNoC is NNoF”.
   3. Now store a Fahrenheit temperature into a variable.
   4. Convert it to Celsius & output “NNoF is NNoC”.

**Code:**

double c = 22;

  double f = (c \* 9 / 5) + 32;

  print("°C to °F: $f");

  c = (f - 32) \* 5 / 9;

  print("°F to °C: $c");

**Output:**

**°C to °F: 71.6**

**°F to °C: 21.999999999999996**

1. Write a program to create a calculator for +, -, \*, / & % using if statements. Take the following input:
   1. First number Second number
   2. Operation (+, -, \*, /, %)

Compute & show the calculated result to user.

**Code:**

print("Enter 1st number: ");

  int? num1 = int.parse(stdin.readLineSync()!);

  print("Enter 2nd number: ");

  int? num2 = int.parse(stdin.readLineSync()!);

  print("Enter operator: ");

  String? opt = stdin.readLineSync();

  if (opt == "+") {

    print("Addition: " + (num1 + num2).toString());

  } else if (opt == "-") {

    print("Subtraction: " + (num1 - num2).toString());

  } else if (opt == "\*") {

    print("Multiplication: " + (num1 \* num2).toString());

  } else if (opt == "/") {

    print("Division: " + (num1 / num2).toString());

  } else if (opt == "%") {

    print("Modulus: " + (num1 % num2).toString());

  } else {

    print("Wrong operator entered");

  }

}

**Output:**

**Enter 1st number:**

**4**

**Enter 2nd number:**

**5**

**Enter operator:**

**/**

**Division: 0.8**

1. Write a program that takes a character (I. e. string of length 1) and returns true if it is a vowel, false otherwise.

**Code:**

 bool a = true;

  bool b = false;

  stdout.write("Enter a character: ");

  String? char = stdin.readLineSync();

  if (char == 'a' || char == 'e' || char == 'i' || char == 'o' || char == 'u') {

    print(a);

  } else {

    print(b);

  }

**Output:**

**Enter a character: d**

**false**

1. Write a program to reverse a string. For example, if my string is "natsikaP nawaJ" then my result will be "Jawan Pakistan".

**Code:**

String a = "natsikaP nawaJ";

print(a.split('').reversed.join());

**Output:**

**Jawan Pakistan**

1. How are duplicates removed from a given array? [Ahmed, Bilal, Muhammad, Owais, Muhmmad, Ali, Ahmed]

**Code:**

var list1 = [

    "Ahmed",

    "Bilal",

    "Muhammad",

    "Owais",

    "Muhammad",

    "Ali",

    "Ahmed"

  ];

  print(list1.toSet().toList());

**Output:**

**[Ahmed, Bilal, Muhammad, Owais, Ali]**

1. Find the missing number in array of 1 to 100?

**Code:**

 var a =

  [

    1,

    2,

    3,

    4,

    5,

    6,

    7,

    8,

    9,

    11,

    12,

    13,

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    92,

    93,

    94,

    95,

    96,

    97,

    98,

    99,

    100

  ];

  for (int num in a) {

    if (a.contains(num + 1) == false && a.last != num) {

      print("Missing value: " + (num + 1).toString());

    }

    print(null); *// No missing value*

  }

**Output:**

**null**

**null**

**null**

**null**

**null**

**null**

**null**

**null**

**Missing value: 10**

**null**

**null**

**null**

1. Find the largest and smallest number in an unsorted integer array?

**Code:**

var list1 = [121, 12, 33, 14, 3];

  var largestValue = list1[0];

  var smallestValue = list1[0];

  for (var i = 0; i < list1.length; i++) {

    if (list1[i] > largestValue) {

      largestValue = list1[i];

    }

    if (list1[i] < smallestValue) {

      smallestValue = list1[i];

    }

  }

*// Printing the values*

  print("Smallest value in the list : $smallestValue");

  print("Largest value in the list : $largestValue");

**Output:**

**Smallest value in the list : 3**

**Largest value in the list : 121**

1. Find all pairs of an integer array whose sum is equal to a given number?

**Code:**

int given\_no = 35;

  var array = [1, 30, 4, 5, 61];

  for (int i = 0; i < array.length; i++) {

    for (int j = i + 1; j < array.length; j++) {

      if (array[i] + array[j] == given\_no) {

        print(array[i].toString()+" + " + array[j].toString()+" = " + (array[i] + array[j]).toString());

      }

    }

  }

**Output:**

**30 + 5 = 35**